

City of Rockville – 2001

## **INFORMATION & TECHNOLOGY**

# **Strategic Plan**





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Honorable Mayor and Members of the City Council  
City of Rockville, Maryland

I am pleased to present the City's first Information and Technology (IT) Strategic Plan. Consistent with Mayor and Council's Technology Policy Initiative, this plan is driven by a commitment to improve citizen access to government information and services, maximize the productivity of City employees, shorten cycle times, reduce long-term operating costs, and deliver superior services. This plan provides many direct benefits to Rockville citizens and businesses. For instance, citizens and businesses will be able to reserve recreation and parks facilities; register for classes; download City forms; check on the status of their permits, plans and inspections; hear and view Mayor and Council meetings; and pay utility bills, all through the City's 24-hour a day, seven-day a week Web site and/or telephone system. The IT Strategic Plan has a single purpose: to build a government without walls, doors, or clocks.

However, this plan does not come without a price. Implementing it will require tremendous staff resources, capital investment, teamwork, and commitment to meet ambitious goals and objectives. Nevertheless, we are confident that this plan will produce long-term results such as reducing the City's cost of doing business, improving access to services, and generating higher customer satisfaction rates. We look forward to meeting this challenge and to continuing to serve the needs of the Rockville community.

Respectfully,

A handwritten signature in blue ink, reading "W. Mark Pentz".

W. Mark Pentz  
City Manager

MAYOR  
Rose G. Krasnow

COUNCIL  
Robert E. Dorsey  
Glennon J. Harrison  
Anne M. Robbins  
Robert J. Wright

CITY MANAGER  
W. Mark Pentz

CITY CLERK  
Claire F. Funkhouser

CITY ATTORNEY  
Paul T. Glasgow



# Information and Technology Strategic Plan

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January 2001  
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### INTRODUCTION

In August 1998, the Data Processing Division of the Finance Department became a separate functioning department, with its own operating budget and Capital Improvements Program (CIP). Soon after, in February 1999, the City Manager hired the City's first IT Director, whose initial challenge was Y2K compliance.

After successfully meeting the requirements of Y2K compliance, the IT Department focused its efforts on evaluating and analyzing how the City uses technology. The timing was right for developing a strategic plan. In April 2000, the IT Strategic Planning process began. The goal of this process was to assess the organization's technical resources and expenditures objectively, articulate a vision for information and technology, identify application and technology priorities, and define guiding principles for information and technology governance and decision making.

The IT Strategic Plan is a three-year plan, similar to a "roadmap," identifying goals and objectives and setting the future technological direction for the City. As assumptions, organizational goals and objectives, the economy, technology, and other factors upon which this plan is based continue to change, it is necessary that it be considered as a beginning, rather than an end, to our efforts to manage our organization and serve the Rockville community. This plan is a living document, which will be reviewed, updated, and re-evaluated on an annual basis.

### Scope Of The Plan

The IT Strategic Plan analyzes current conditions of information and technology, explores emerging technologies, and describes a general profile of the Rockville citizenry today. It also provides the department's mission, an account of the various services delivered by the IT Department, the City's current technology systems and applications, and the roles and responsibilities of IT staff. Likewise, it includes the process and timeline involved in developing the strategic plan and reviews the department's mission and customers. The substance of the plan is summarized in the IT Department's guiding principles, the goals, and the Key Result Areas Matrix. This portion of the plan offers recommended courses of action and provides timeframes and estimates of cost and staff resources. Finally, the plan includes a summary of direct benefits to Rockville citizens.

### EXECUTIVE SUMMARY

The IT Strategic Plan sets the direction for the City's current and future use of technology. The IT Strategic Plan would not have been possible without the support and guidance of the IT Department staff, the department directors, supervisors, managers, and RockNet. Likewise, the leadership and vision of the Mayor and Council were instrumental in moving this plan forward.

The strategic planning process involved collecting data and receiving input from all City departments including the IT Department. Guidance was also received from RockNet, a nonprofit citizen's group. The plan consists of five goals, each with several key result areas.

#### Goal 1. Build and Strengthen the City's Technology Infrastructure

- Rebuilding the City's technology infrastructure is an essential element of the plan. This includes a new fiber-based institutional network linking all major facilities and expanding and renovating City Hall with the latest technological capabilities.
- Geographic Information Systems (GIS) will be deployed to enable citizens and City staff to produce maps efficiently and access and analyze information in a spatial format.
- The Police Department will use new mobile data and mobile voice systems to enhance public safety.
- A new telephone system with increased capacity and greater capability will be procured.

#### Goal 2. Develop IT Organization and Staff Structure

- IT staff development and training, employee retention, and recruitment are a major focus.
- Two new positions, a programmer analyst and a PC support specialist, will be needed to meet

the increasing demands of departments and to maintain and improve service levels. An additional recommendation includes converting a Web/graphics assistant position from a part-time (.5 FTE) to a full-time (1.0 FTE) position.

- The IT Department will periodically evaluate the effectiveness of the services it provides to internal and external customers through the use of surveys and performance measures.

#### Goal 3. Use Technology to Communicate and Share Information Effectively

- An interactive voice response system (IVR) will be implemented to allow citizens to register for classes, check the status of permits, and schedule inspections using a telephone.
- Inspectors and other field staff will have access to the City's permit system to update inspections and process permits remotely with mobile computers and wireless modems.
- The City's cable television station will continue offering excellence in programming. The television division will upgrade and convert production and transmission equipment to digital standards.

#### Goal 4. Empower and Educate Technology Users

- Computer training is essential to empower users and give them the necessary skills to adapt to all the changes in technology this plan addresses.
- An Intranet site will be developed to share and publish information within the City for all staff with computers. The site will include an employee phone and photo directory, personnel policies, online forms, employee newsletters, and Web-browser based GIS access.

### **Goal 5. Extend and Enhance City Services to the Web**

- E-commerce will provide an array of new services to citizens through the Internet. These include registering and paying for recreation classes, applying for and tracking the status of permits, and paying for utility bills and parking tickets.
- The cable television station will make the Mayor and Council meetings and other programming available over the Internet using video-streaming technology.
- Commonly used forms will be made available on the City's Web site.

More details about each of these goals, including time frames, costs, and resources required are contained in the Key Result Areas Matrix. The matrix is intended to be a working document that can be referred to by staff in the IT Department to track progress and help determine priorities.

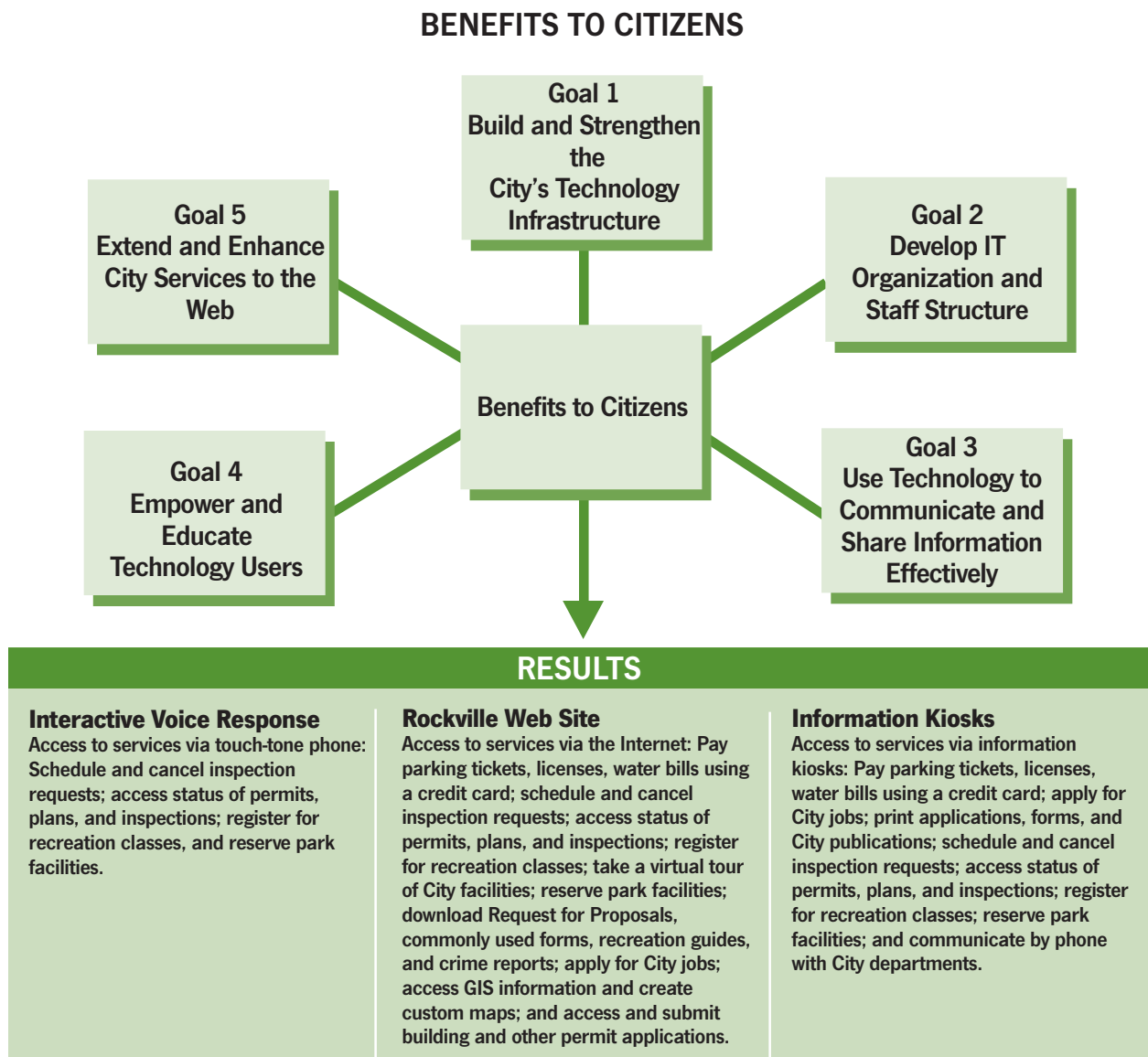
Other sections of this document include an examination of emerging technologies, an overview of Rockville's citizenry, and an overview of the IT Department. A glossary of terms can be found in the appendix.

### BENEFITS TO CITIZENS

The City's three-year IT Strategic Plan may appear to have an internal focus; however, the primary purpose for the plan is to help departments improve service delivery. Overall, Rockville citizens and businesses will benefit from the IT Strategic Plan with improved access to public information

and services and more convenient choices for conducting business with the City.

The following chart summarizes some of the benefits that citizens and businesses of Rockville will experience in the future through the accomplishment of the five IT Strategic Plan Goals.





### BACKGROUND

This section of the plan summarizes the strategic planning process used to develop the plan, as well as the IT Department's mission, customer overview, and services. In addition, it includes a brief description of the Rockville citizenry and an analysis of emerging technologies and their impact on local government.

### THE IT STRATEGIC PLANNING PROCESS

The strategic planning process focused on seeking input and guidance from all City departments; RockNet, a group of volunteers whose mission is to create a closer sense of community using computers and the Internet; and the Rockville Mayor and Council. The process was broken into four phases:

#### **I. Data Collection and Analysis Phase:**

During the data collection and analysis phase, focus groups with departments were conducted to seek feedback on the strengths and weaknesses of the IT Department and to assess the future technology needs of each department. The department director and division managers and/or supervisors participated in the focus groups. The facilitated focus groups contained the following elements:

##### **1. Background for the IT Strategic Plan**

The IT Director provided the background and purpose for developing an IT Strategic Plan.

##### **2. How is the IT Department doing?**

The Assistant to the City Manager facilitated an exercise asking for feedback on the IT Department's performance and efficiency. Participants brainstormed the department's strengths and weaknesses.

##### **3. Define Your Department's Business**

Both the IT Director and the Assistant to the City Manager asked participants to define and clarify their department's "business." For the IT Department to improve service quality and enhance customer satisfaction, it was imperative to understand and identify components of the City that were supported by technology. In essence, this better enables the IT Department to assist departments in achieving their mission and goals.

#### **4. How Technology Can Work for You and Identifying Priority Issues**

The Assistant to the City Manager facilitated a brainstorming session to help departments identify all technological issues pertaining to how their departments do business, and then prioritized them using the N/3 process, a way of identifying and prioritizing issues. The purpose of this exercise was to understand how technology impacts each department's business; to gauge whether or not current technology meets each department's needs; and to identify work functions or processes that could be improved through technology.

Prior to meeting with each department, the IT Director and the Assistant to the City Manager met with the entire IT Department to conduct a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis, which provided the current state of the IT environment and industry trends.

#### **II. Development Phase:**

The development phase involved reporting back to the IT Department to distribute the findings and the data that was collected from the department focus groups. The IT Department analyzed this information and created the IT Goals, the Guiding Principles, and the Key Result Areas Matrix. These key pieces were distributed to

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the senior management team for review and comment. In addition, the IT Director, the Assistant to the City Manager, and the Web Administrator met with RockNet to share the key pieces of the plan and to seek input. Adjustments were made, the plan was drafted, and the draft was shared with the senior management team for prioritization of the non-funded objectives and for final comment.

### III. Review and Approval Phase:

The draft was completed after incorporating final comments and edits from the senior management team, the City Manager, and the Public Information Officer (PIO). “Final” drafts of the plan were distributed to the Mayor and Council prior to the IT

Strategic Plan Worksession. Mayor and Council feedback from the worksession was integrated into the plan. The City Manager and the PIO reviewed the completed plan.

### IV. Implementation Phase:

The IT Strategic Plan was distributed to the Mayor and Council, departments, boards and commissions, the Technology Action Team, RockNet, and the media. It also was made available on the City’s Web site. Lastly, the process for measuring results was implemented through the annual review and revision of the Key Result Areas Matrix.

A chart of the strategic planning process and timeline is below:

#### Data Collection and Analysis Phase

##### Collected Data

- Conduct focus groups with departments for needs assessment
- Conduct research

##### Analyze Data

- Obtain additional data and/or input
- Process and analyze data
- Identify issues and opportunities

**April-June 2000**

#### Development Phase

##### Draft Plan

**Distribute Goals, Guiding Principles, and Key Result Areas Matrix to Departments for Feedback**

##### Discuss Draft Plan with RockNet

##### Revise Plan

- Distribute to Departments for input
- Make changes, edits
- Finalize draft

**July-September 2000**

#### Review and Approval Phase

##### Distribute “Final” Draft to Mayor and Council

##### Conduct Worksessions with Mayor and Council

##### Finalize Plan

- Incorporate Mayor and Council comments, edits, etc.
- Review final plan (City Manager)
- Proof plan (PIO)
- Design and layout plan
- Print plan

**October-November 2000**

#### Implementation Phase

##### Present Plan

- Distribute to Mayor and Council, departments, boards and commissions, the Technology Action Team, RockNet, the media, etc.
- Include plan on City’s Web site

**January-February 2001**

### IT MISSION AND REVIEW OF IT CUSTOMERS

#### IT Mission

The IT Department is dedicated to delivering timely information and technology services through cable television, computer systems, telecommunications systems, and the Internet. The department strives to implement technology to improve the efficiency and quality of services the City provides to its citizens.

#### The IT Department's Customers

During the departmental focus groups, departments (the IT Department's internal customers) were asked to define their "business." The purpose was to gain a better understanding of how departments use technology, therefore, better enabling the IT Department to assist departments in achieving their mission and goals.

#### City Attorney's Office

The primary function of the City Attorney's Office is to provide the Mayor and Council, departments, and boards and commissions with legal counsel. Its duties include researching and drafting legal documents, legislation, resolutions, and assisting departments with enforcement of laws and codes.

#### City Clerk's Office

The City Clerk's Office provides administrative and clerical staff support for the Mayor and Council's Office. Other primary functions include administering the City election; providing staff support to the Board of Supervisors of Elections; coordinating all intergovernmental relations activities; maintaining ordinances, resolutions, and zoning applications; and coordinating the records management activities for all departments. The City Clerk attends all Mayor and Council meetings and worksessions and prepares agendas and minutes for such meetings. The City Clerk's Office has a

number of customers including citizens; other City staff; state, county, and municipal officials; and candidates for election.

#### City Manager's Office

The City Manager's primary responsibility is to implement official policies of the Mayor and Council. Other functions include providing oversight to departments, supplying research and analysis, ensuring the citizen input process with capital projects, and managing intergovernmental affairs.

Additionally, the City Manager's Office provides support services to departments, such as graphic design services, copy center and printing services, mail delivery, employee wellness, employee newsletter, training, and facilitation services. Direct services to citizens and businesses include citizen service requests, information/switchboard operation, mediation/conflict resolution services, and public information (*Rockville Reports*, media relations, etc.).

#### Community Planning and Development Services

The Planning Division reviews development applications, administers the zoning ordinance, prepares map and text amendments, regulates aesthetics, and prepares and updates the Master Plan. Additionally, this division maintains and updates a city database on land use, housing, employment, and development; coordinates with other government agencies; provides staff support to a number of related boards, commissions, and task forces; administers the Community Development Block Grant (CDBG) program; and manages landlord-tenant issues.

The Inspection Services Division's mission is to ensure public safety through the enforcement of state and local building codes. Responsibilities include reviewing plans for compliance, providing inspections during all phases of construction, and issuing permits.

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### Finance

Services provided by the Finance Department include preparing operating and capital budgets, assuring compliance with the budget, overseeing contracting processes, managing the City's fiscal impact study, preparing audited financial statements; issuing paychecks; processing employment paperwork; providing financial data to Mayor and Council, departments, vendors, and citizens; and managing a supply stockroom. The Finance Department bills and/or collects City revenues (excluding taxes) and provides assistance to taxpayers and utility customers. Likewise, other direct services provided for external customers include billing for special assessments, conducting meter readings, issuing bids, and paying vendors.

### Personnel

The Personnel Department has two primary customers, City departments and City employees. It provides a full-range of services such as recruitment, job classification, testing, and health and retirement benefit services. In addition, it communicates City policies and programs, administers the safety and risk management program, collects and reports affirmative action data, and manages a variety of employee events and special projects.

### Public Safety, Neighborhood, and Community Services

The Department of Public Safety, Neighborhood, and Community Services provides a wide-range of services. The primary mission for the Public Safety Division is to provide a safe environment for the citizens of Rockville. This mission is fulfilled through a coordinated effort with the Montgomery County Police Department. Services provided under this division include neighborhood-oriented policing, directed patrol, traffic and parking enforcement, and animal control. A variety of crime prevention and community programs are sponsored by Public Safety such as the Neighborhood Watch and Business Watch, W.R.I.T.E. (Witness Report in

Traffic Enforcement), Every 15 Minutes anti-drinking and driving program, D.A.R.E. (Drug Resistance Education), and residential and business security surveys.

The Code Enforcement Program, previously part of the Community Planning and Development Services Department, is responsible for residential and commercial code enforcement. The Neighborhood Resource Program, previously a division within the City Manager's Department, is primarily responsible for providing two-way communication between neighborhoods and City government. Likewise, this program sponsors Rockville University and coordinates walking town meetings and the matching grant program.

Community Services serves individuals and families living in Rockville and provides a number of prevention programs, counseling, and outreach services, including emergency assistance, individual tutoring and homework clubs, groups for teens, mentoring programs, and parenting programs. Additionally, Community Services provides referrals, serves as a liaison to outside agencies, and coordinates the holiday food drive.

### Public Works

The Public Works Department delivers several direct services to Rockville households and businesses such as producing safe drinking water, collecting refuse and recycling, providing reliable water and sewer systems, removing snow and ice on city streets, providing environmental engineering services, creating a safe transportation system, and constructing and maintaining city streets and sidewalks. Other services include purchasing and maintaining the City's fleet of vehicles and equipment and managing contracts of privatized services and capital improvement projects. Public Works also participates in the development review committee with other departments.

### **Recreation and Parks**

The Recreation and Parks Department provides a comprehensive assortment of recreational activities and leisure programs, a variety of parks and facilities, and a range of administrative and maintenance services. Recreational activities include community and outdoor recreation, special events, summer camps and recreation classes, childcare, senior services, and sports. The department also manages the City's parks and grounds, rights-of-ways and medians, ball courts and fields, garden plots, and buildings/facilities such as the Senior Center, the Civic Center, the Swim Center, the Golf Course, the City's recreation centers, the maintenance facility, and City Hall. Administrative and maintenance services include monitoring department operating and capital budgets, administering contracts and purchases, providing staff support for boards and commissions, overseeing interdepartmental and intergovernmental relations and long-range planning, and providing forestry and horticulture services.

### OVERVIEW OF THE ROCKVILLE CITIZENRY

In general, Rockville citizens are well educated and active in their community and government, have relatively high average incomes, and make use of advanced technology. They have high expectations of their municipal government and the services it offers. They have a high degree of interest in being able to obtain City-provided Web-based services. They have indicated that they want their community to be at the forefront of applying technology in a variety of ways to improve the quality of life for everyone, both now and in the future. They want to see increased competition, lower costs, and more service choices in the area of advanced telecommunications technology. Rockville businesses that use advanced technology have expressed a desire to be able to extend that use and to have access to advanced telecommunications. Internet use, use of high-speed connections, and use of wireless services for both residential and business applications all are increasing rapidly both nationally and in Rockville.

Computer technology already is more prevalent in Rockville than in general throughout the United States. More than 76 percent of Rockville residents have a personal computer; of those, almost 84 percent have a modem for their computer, and 63 percent subscribe to an Internet service.<sup>1</sup> National personal computer ownership is about 50 percent.<sup>2</sup> With most Rockville residents employed in executive, administrative, professional, and related positions, they also are likely to be using computers in their daily work, as well as at home.

Given all of the above, plus the continuing advancements in and lower costs for technology, more and more Rockville citizens will be using advanced technology and will expect to be able to use that technology to communicate with and obtain services from their municipal government.

<sup>1</sup> Residential Telecommunications Survey, October 1998

<sup>2</sup> U.S. Commerce Dept.

### EMERGING TECHNOLOGIES AND THEIR IMPACT ON LOCAL GOVERNMENT

E-commerce, wireless, fiber, GIS, and IT recruiting are the major forces influencing technology today and in the future. The Internet has quickly become a mass phenomenon and recent studies show that half of all U.S. residents go online. By 2003, International Data Corporation estimates that almost 70 percent of the population will use the Internet.<sup>3</sup> Consumers are increasingly purchasing books, airline tickets, and computers online. As businesses continue to offer more services through the Internet, consumers are expecting governments to do the same. The “24 x 7” government is what consumers and businesses will expect — a government without walls, doors, or clocks. Furthermore, most citizens do not care about which branch of government they have to deal with, they just want the convenience of paying their utility bills, permits, licenses, and parking tickets online without having to set foot in City Hall. A recent study showed that more than 78 percent of governments do not offer services online.<sup>4</sup>

The rapid growth in wireless technology is another important trend, which is transforming the way individuals and organizations communicate. Mobile devices including palm computers, small laptops, and digital cellular phones are being used in entirely new ways. Some important new standards are emerging to offer more interoperability between these devices. The most important one is “BlueTooth,” which lets these devices talk effortlessly over short distances without cables or wires. For example, a vehicle driver pulling into a parking garage can pay the parking fee by pressing a button on their cell phone, or someone could pay for a soft drink from a vending machine with a Palm Pilot. The bandwidth for these technologies is expected to grow more than ten-fold, which will make full motion video and all sorts of new services possible. For governments, this means that these wireless devices are becoming less expensive and more ubiquitous. Personnel who spend most of

their time away from the office will find they can always stay connected. Police officers, building and code enforcement inspectors, and recreation staff will have new capabilities to access and update information. Police will have immediate access to records management systems, inspectors will have access to permit software, and recreation staff will have access to class offerings and facility booking information.

Another major technology trend is fiber optics, the infrastructure behind the Internet. The telecommunications industry has laid millions of miles of fiber over the last 20 years. This has provided the capacity to handle the explosive growth of the Internet. Many governments, including Rockville, are looking at fiber as a major way of rebuilding their own networks. These “institutional networks” (I-Nets) are dedicated fiber optic ties linking government facilities up to several kilometers apart. I-Nets are becoming widespread, particularly among larger jurisdictions. Previously I-Nets were impossible for governments to cost justify, but now with telecommunications and cable companies continually requesting permission to use public right-of-ways, governments can often receive free fiber in return. With these I-Nets, governments can provide seamless high-speed network access to all their employees regardless of their location. Furthermore, it drastically reduces the amount of spending on traditional telecommunication providers for dedicated data services like T1s.

As the cost of fiber optic cabling has continued to drop, many businesses are considering running fiber all the way to the desktop. By doing this, governments and businesses can provide the essential infrastructure to accommodate any improvements in network technology into the future. Furthermore, in new buildings it can reduce the amount of wiring closets required since fiber can be run much greater distances than traditional copper wiring.

GIS has and will continue to dramatically transform the way governments operate. It is estimated that between 70 and 80 percent of government

<sup>3</sup> David Lake, “Access Up, Divide Shrinks,” June 19, 2000

<sup>4</sup> Industry Standard, Metrics Report, September 19, 2000



## Information and Technology Strategic Plan

data can be geographically referenced. Governments are beginning to recognize the value of looking at information spatially, which can lead to improved decision making and more accurate and speedier analysis of information. Some of the major ways the public sector is using GIS includes land use and urban growth planning and permit tracking, economic development, transportation planning, and legislative redistricting.

The IT recruitment challenge is another major factor impacting local government and the entire economy. With the burgeoning Internet economy, as many as 400,000 IT jobs go unfilled and more than 200,000 newly skilled workers will be needed

annually according to a recent report issued by Public Technology, Incorporated.<sup>5</sup> To face this challenge, local government leaders are beginning to implement “out-of-the-box” solutions to attract and retain IT talent. Some of these include salary studies and pay adjustments, pay-for performance programs, improved training, reducing the cycle time between advertising and interviewing, and rewarding employees for referrals.

As these technologies and challenges continue to have a major impact on local government it will be important for Rockville to address these and other factors in the upcoming years.

<sup>5</sup> The Local Government IT Recruitment Challenge, Public Technology Inc., July 2000



### OVERVIEW OF INFORMATION AND TECHNOLOGY SERVICES

IT Department is the newest department in the City of Rockville. It was created in 1998 in response to a growing interest and need for making technology a City-wide strategic focus. Previously, most technological services were provided by the Data Processing Division under the Finance Department. Since then, IT has undergone significant change.

- In February 1999, Mike Cannon, the City's first IT Director was hired.
- In August of 1999, the Web Administrator position was moved from the City Manager's Office to IT.
- In February of 2000, the GIS function was moved from Community Development and Planning Services to IT, and Pedro Flores, the City's first GIS Manager, was hired.
- In March of 2000, the Cable TV and Telecommunications Division was moved from the City Manager's Office to IT.

Currently, the IT Department is organized into two groups with several positions reporting directly to the IT Director. One group consists of the Cable Television and Telecommunications Division, with Doug Breisch as the supervisor of the division. The second group, PC Support, includes four specialists. The remaining staff members, including GIS, Web, and Systems Analysts, report directly to the IT Director.

### Systems Supported

The City of Rockville's technology infrastructure is undergoing significant change. The major challenge for the department is not only to install and support new systems but also to continue to maintain older platforms until they are no longer needed. The IT Department supports several legacy systems including an IBM Mainframe, an HP 3000, as well as several newer network-based platforms.

The mainframe is used to run the City's financial, payroll, human resources, and recreation registration systems. IT is in the process of moving the recreation systems to a client-server network environment. The minicomputer is used to run the City's utility billing system, which bills citizens for water usage.

The network environment consists of approximately 300 IBM compatible PCs, with the exception of the Graphics Division with four Apple Macintosh computers. The City has local area networks (LAN) in six locations. These LANs are linked together to form a wide area network (WAN). Most of the links are limited to handling e-mail traffic since the speed of these links is extremely slow (56K in most cases).

There also are several application servers for GIS, Permit Software, a new Recreation System, Firewall, and a Web Server.

All users of the City's network have Lotus Notes for e-mail and scheduling. The standard "office" software is Microsoft Office Professional. Additional specialized applications are used by smaller groups of staff and these include: Permit Plan for permitting, ArcView and ArcInfo for GIS, and AMS Advantage for financials. Several smaller custom-developed databases are used for voter registration, budget preparation, applicant tracking, parking tickets, police applications, and other purposes.

### THE STRATEGIC PLAN

The strategic plan section includes the guiding principles and the goals. In particular, this section contains the Key Result Areas Matrix; it is the “core” of the document. The purpose of the matrix is to synthesize the goals, key result areas (also known as priority issues) and objectives into a format that is friendly to read and easy to update. In essence, it is the IT Department’s action plan.

### GUIDING PRINCIPLES

With rapid changes in information and technology, evaluating technology applications for the City can be a daunting task. To address this concern, the City will use a set of “guiding principles” to focus decision making. Without a doubt, surprises will come; however, these guiding principles provide general guidelines and direction for doing business.

**Principle 1.** All Rockville citizens and businesses will have appropriate access to services and information.

**Principle 2.** IT will strive to provide the appropriate information technology tools for City staff to accomplish their mission and goals and to communicate information to the organization.

**Principle 3.** IT will support the sharing of information within the department and across departments.

**Principle 4.** IT will strive to implement tools that foster citizen participation.

**Principle 5.** IT will provide quality customer service to technology users and departments as defined by the Customer Service Standards and performance measures.

**Principle 6.** Service Level Agreements will be developed with technology end-users and will be kept consistent across the City, recognizing the fact that some departments may have a more critical need for service.

**Principle 7.** IT will provide expertise and guidance when supporting business process improvements.

**Principle 8.** Partnering opportunities will be pursued with both private and public sector organizations whenever possible.

**Principle 9.** Commercially developed software applications will be used whenever available and practical.

**Principle 10.** Hardware and software will adhere to open (vendor-independent) standards and minimize proprietary solutions.

**Principle 11.** IT will determine if features of existing applications can be utilized before buying or creating new ones.

**Principle 12.** IT will utilize consultants for high-tech/low frequency tasks when practical.

**Principle 13.** IT will train or secure training to users in new technology prior to implementation.

**Principle 14.** Only proven technologies will be implemented for critical systems.

**Principle 15.** Performance measurement tools will be utilized to track the effectiveness of IT services.

**Principle 16.** IT will maintain a network infrastructure that delivers the type of bandwidth and speed that is consistent and cost effective with the technology of the times.

**Principle 17.** IT will strive to provide timely and complete information to internal and external customers.

### IT GOALS – WHAT DO WE WANT TO ACCOMPLISH?

The strategic planning process has led to the creation of five goals that establish a three-year roadmap for the City's Information and Technology Department. These goals were developed from a facilitated process with all departments and their department supervisors. Each department identified priority issues and ranked them by order of importance. Following the data collection phase, a comprehensive list of priority issues was compiled. The strategic plan development group then analyzed these issues and characterized them into key result areas, which fall under these five goals. The overall goals for the strategic plan are summarized below.

**Goal 1. Build and Strengthen the City's Technology Infrastructure**, consists of several key result areas that focus on revamping the City's aging, and in many cases, obsolete technology infrastructure. The goals in this plan rely on a vibrant technology infrastructure. Infrastructure issues under this goal include the fiber-based institutional network (I-Net), telephone system, the new City Hall construction and renovation, computer inventory, and GIS, among others. Several of these items are funded in Fiscal Year 2001 in the General Fund and CIP. Others, such as public safety mobile voice/mobile data system, document management, document imaging, and technology maintenance, will require funding in future years.

**Goal 2. Develop IT Organization and Staff Structure**, focuses on the importance of building and maintaining a well-managed and highly-skilled labor force. A critical component of bringing about major changes in the City's technology is to ensure that the IT Department has appropriate staffing levels with skill sets to support it. The major recommendation under this goal is to add two new positions, a PC support specialist and a programmer/analyst, and to upgrade a part-time Web/graphic support position to full-time. The number of PCs supported and the number of sites served has grown rapidly. The PC support specialist

would be dedicated to providing support to remote locations. A programmer analyst is needed to create databases and custom software applications. Where there are gaps in IT staff knowledge, additional training or certifications may be required. As the department continues to evolve from a data processing service bureau to a full-fledged IT Department, the department will need to evaluate the services it offers continually and determine what, if any, should be added or discontinued.

**Goal 3. Use Technology to Communicate and Share Information Effectively**, focuses on one of the most important roles of a City government. Specifically, this goal covers the array of information technologies that facilitate the rapid delivery and sharing of information with individuals and groups. These technologies cover the gamut, from telephones, including IVR so citizens can register for activities with a telephone, to sophisticated Web and e-commerce applications. Part of this strategy also includes the development of an Intranet site to facilitate internal sharing of information among City staff. The Intranet and the Web site will be central repositories for electronic forms (e-forms) that will make it more efficient and convenient for City staff and the general public to obtain and complete the wide array of City forms. GIS is a critical component of this goal, and as the City's GIS is extended to the Web, citizens will begin to access City information in entirely new ways. Under this goal there is a basic acknowledgement that there is a digital divide among Rockville's citizens, and the best way to communicate and share information is to offer a range of technology options both "high tech" and "low tech" to reach them. In addressing the digital divide, specifically, the IT Department will work with the Recreation and Parks Department to investigate setting up additional computer learning centers, following on the successes of computer facilities at the Twinbrook, Lincoln Park, and Elwood Smith Community Centers and the Senior Center.

**Goal 4. Empower and Educate Technology Users**, recognizes that an essential element of implement-

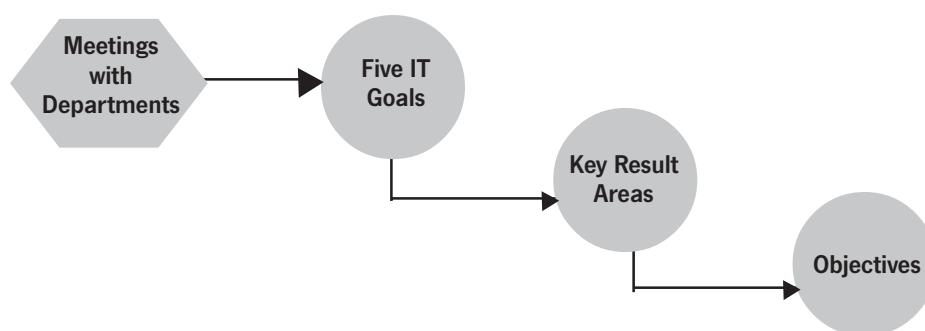
## Information and Technology Strategic Plan

ing new technology is to ensure that users have the knowledge and support to use it effectively. Until recently, computer training was not offered internally. Rather, training, which was approved and funded by individual departments, was conducted offsite by training vendors. The City needs to consider centralizing computer training so IT will have a better understanding of the organization's training needs. This will save the City money since there will be economies of scale, and it will make it more efficient and timely for staff to register for training through IT. Another objective under this goal is to partner with the Personnel Department to develop minimum computer literacy standards for positions that involve working with computers. This will help to ensure that employees have the skill set needed to perform their work successfully. Other objectives include the further development of the Intranet to provide City staff with quick and easy access to commonly used information. Eventually, designated staff will be given training and access to publish their department's information on the Intranet ensuring up-to-date information. Another area of focus is to develop a "service agreement" so users know what to expect when they call the help desk and what is expected of them. Finally, IT will work closely with the Personnel Department to support the teleworking initiative, including implementing remote access to the City's network.

**Goal 5. *Extend and Enhance City Services to the Web***, is based on the need to provide citizens with access to more City services 24 hours a day, seven days a week (24 x 7). The Washington D.C. area

has one of the highest levels of Internet access in the country and a wide array of broadband services. Citizens, businesses, and visitors will be able to visit the City's Web site for all sorts of information, such as the City's budget, ordinances, annual reports, newsletters, and requests for proposals. Additionally, Web site visitors will be able to access up-to-date information and retrieve archived documents. The most widely used application for citizens will likely be the Recreation System. Citizens will have the ability to register and pay for classes online. Eventually, citizens will be able to track and pay for permits, parking tickets, and water bills online. Mayor and Council meetings and special programming from the cable television division will be made available online through streaming video. GIS information also will be accessible online, providing the general public with access to a range of information including tax, zoning, neighborhood, polling places, City facilities, and many other geographic-based layers.

The Key Result Areas Matrix provides details and specifics about the three-year IT goals, key result areas, and the objectives. The IT goals, which were developed from learning the technological priority issues for each of the City's departments, are the primary focus for the IT Department. The key result areas, or the "priority issues," are initiatives directed at accomplishing each goal. The objectives, which consequently fall under each key result area, describe the application of the key result area and provide a means for measuring the goals.



### IT STRATEGIC PLAN KEY RESULT AREAS MATRIX

The Key Result Areas Matrix, which follows, includes estimated costs, staffing requirements, funding sources, and timeframes.






#### IT STRATEGIC PLAN GOALS:

1. Build and strengthen the City's technology infrastructure
2. Evaluate and develop IT organization and staff structure
3. Use technology to communicate and share information effectively
4. Empower and educate technology users
5. Extend and enhance City services to the Web

The matrix is designed to outline the three-year IT goals, key result areas, and the objectives. The IT goals are the primary focus for the IT Department. The key result areas are initiatives directed at accomplishing each goal. The objectives describe the application of the key result area and provide a means for measuring the goals.

The matrix legend depicts the following:

- **Time frame** – the time frame is the estimated fiscal year in which the objective will be implemented. While it is apparent that projects may expand over several fiscal years, the time frame provides a sense for when projects will begin. Certain objectives do not require a time frame for implementation; these are continuing and are labeled as ongoing.
- **Cost** – the cost scale is broken into seven different ranges, with the seventh range identified as non-quantifiable. The objectives that are labeled as NQ for non-quantifiable may be characterized as evaluative in nature and may require IT staff to support and/or review initiatives, emerging technologies, customer service levels, policies, and procedures. Please keep in mind, the costs are based on year 2000 estimates and may decrease or increase as the objective moves into the implementation phase.
- **Staff Resources** – the staff resources scale is a simplified approach for determining the number of staff required to develop and implement the objective. It is worth noting that as the initiative becomes ongoing, it is likely that the number of staff required to maintain the initiative would decrease.
- **Funding** – the funding scale identifies what funding source each objective is currently supported by, either by the General Fund or the Capital Improvements Program. This provides a quick reference for how the goals and objectives are financially supported. If objectives are not currently funded, they are labeled as NF for not funded, and objectives that do not require any funding are left blank.

Time frame		Cost Scale		Staff Resources		Funding Scale	
Scale				Scale			
		\$	\$0 – \$10,000		1	NF	Not Funded
1	FY 2001	\$\$	\$10,000 - \$20,000		2	GF	General Fund
2	FY 2002	\$\$\$	\$20,000 - \$50,000		3	CIP	Capital Improvements Program
3	FY 2003	\$\$\$\$	\$50,000 - \$100,000		4	NQ	Non-Quantifiable
	Long-Term	\$\$\$\$\$	\$100,000 - \$300,000		5+	--	Not Applicable
	Ongoing	\$\$\$\$\$	\$300,000 +				

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## Goal 1. Build and Strengthen the City's Technology Infrastructure

Key Result Area	Timeframe	Cost	Staff	Fund
<b>a) Network Infrastructure</b>				
<ul style="list-style-type: none"> <li>Implement an institutional network (I-Net) of fiber optic cable linking all key City facilities enabling high-speed data, voice, and video communications.</li> </ul>	1	\$\$\$\$\$	↑↑↑↑↑	GF
<ul style="list-style-type: none"> <li>Add redundancy to the I-Net in the event of a fiber cut. This will be provided primarily through in-kind services received from new telecommunications providers using the City's right-of-way.</li> </ul>	2	\$	↑↑	NF
<b>b) Computing Platform Consolidation</b>				
<ul style="list-style-type: none"> <li>Reduce the number of computing platforms and eliminate mainframe-based systems where possible.</li> </ul>	3	NQ	↑↑↑↑	—
<ul style="list-style-type: none"> <li>Ensure that IT staff has the expertise to support computing platforms in use.</li> </ul>	2	\$	↑↑↑↑↑	GF
<b>c) Telephones/Voice Mail/Mobile Phone Systems/Pagers</b>				
<ul style="list-style-type: none"> <li>Purchase a new City-wide telephone system compatible with the City's I-Net and expandable for the new City Hall.</li> </ul>	2	\$\$\$\$\$	↑↑↑	CIP
<ul style="list-style-type: none"> <li>Implement voice mail and telephone systems that are user friendly; offer periodic training in their use.</li> </ul>	2	\$	↑	CIP
<ul style="list-style-type: none"> <li>Evaluate the utility of emerging wireless technology (e.g., "Bluetooth"<sup>6</sup>).</li> </ul>	Ongoing	NQ	↑↑	—
<b>d) Geographic Information Systems</b>				
<ul style="list-style-type: none"> <li>Maintain and update the information in the City's GIS map library.</li> </ul>	Ongoing	\$\$\$\$	↑	CIP

<sup>6</sup> Bluetooth is an open standard for short-range transmission of digital voice and data between mobile devices.

## Goal 1. Build and Strengthen the City's Technology Infrastructure (continued)

Key Result Area	Timeframe	Cost	Staff	Fund
<ul style="list-style-type: none"> <li>Develop standards for and require developers/telecom providers to submit "as-built" maps in electronic format compatible with the GIS.</li> </ul>	2	NQ	↑↑↑	—
<ul style="list-style-type: none"> <li>Implement inventory of the Public Works infrastructure in a spatial database (i.e. streets, signs, traffic signals, street lights, storm drains, sidewalks, pumps, etc.).</li> </ul>	2	\$\$\$\$\$	↑↑	CIP
<ul style="list-style-type: none"> <li>Implement parks and facilities inventory linked to parks topological survey data.</li> </ul>	1	\$\$\$\$\$	↑↑	CIP
<ul style="list-style-type: none"> <li>Continue collaborating with the County and other jurisdictions to develop GIS data to reduce duplicative efforts and take advantage of economies of scale.</li> </ul>	Ongoing	NQ	↑	—
<ul style="list-style-type: none"> <li>Keep abreast of new technological developments in GIS and perform hardware and software upgrades to provide the best solutions to users.</li> </ul>	Ongoing	\$\$\$	↑	CIP
<ul style="list-style-type: none"> <li>Provide a seamless link to City databases through GIS.</li> </ul>	1	\$	↑↑	CIP
<b>e) Security</b>				
<ul style="list-style-type: none"> <li>Use consultants to periodically audit, develop policies, and make recommendations on network security, Web server, and remote access.</li> </ul>	Ongoing	\$	↑↑	NF
<ul style="list-style-type: none"> <li>Implement a virtual private network (VPN) to provide a secure method for City employees to access the City's network through the Internet.</li> </ul>	2	\$	↑↑	GF
<ul style="list-style-type: none"> <li>Improve the security of IT facilities.</li> </ul>	2	\$	↑↑	NF
<ul style="list-style-type: none"> <li>Implement a new inventory control system for IT equipment.</li> </ul>	2	\$	↑↑	NF



## Goal 1. Build and Strengthen the City's Technology Infrastructure (continued)

Key Result Area	Timeframe	Cost	Staff	Fund
<b>f) Disaster Recovery</b>				
<ul style="list-style-type: none"> <li>Develop a comprehensive disaster recovery plan for all "critical systems."</li> </ul>	2	\$\$\$	👤👤👤👤	NF
<ul style="list-style-type: none"> <li>Annually test disaster recovery procedures to ensure back ups are working and hot-site recovery procedures work.</li> </ul>	Ongoing	\$	👤👤	GF
<b>g) Help Desk</b>				
<ul style="list-style-type: none"> <li>Purchase and implement help desk call tracking software.</li> </ul>	1	\$	👤👤	NF
<ul style="list-style-type: none"> <li>Purchase software that enables staff to examine and fix problems remotely.</li> </ul>	2	\$	👤👤	NF
<b>h) Mobile and Wireless Computing</b>				
<ul style="list-style-type: none"> <li>Provide City Police with new mobile data and mobile voice communications systems.</li> </ul>	2	\$\$\$\$\$	👤👤	CIP
<ul style="list-style-type: none"> <li>Utilize mobile computers and wireless Internet services to provide access to critical applications for City staff working offsite.</li> </ul>	1	\$\$\$\$\$	👤👤	GF
<b>i) Document Management and Imaging</b>				
<ul style="list-style-type: none"> <li>Acquire a document management system to help organize and make electronic documents easily retrievable.</li> </ul>	Long-term	\$\$\$	👤👤	NF
<ul style="list-style-type: none"> <li>Acquire a document imaging system to scan paper documents, reduce paper document storage, and locate and retrieve documents quickly.</li> </ul>	Long-term	\$\$\$\$\$	👤👤👤	NF

## Goal 1. Build and Strengthen the City's Technology Infrastructure (continued)

Key Result Area	Timeframe	Cost	Staff	Fund
<b>j) New City Hall and Other Facilities</b>				
• Provide consultation in all phases of new building/remodeling.	1	NQ	1	—
• Design new cabling systems.	1	\$	1	CIP
• Utilize consultant to design TV Studio and AV systems for conference rooms and Mayor and Council Chambers.	1	\$\$\$	1	CIP
• Design training facility/"community learning center" to facilitate training of City staff and citizens through recreation program offerings.	1	\$	1	CIP
• Install information kiosks in City Hall and possibly other locations.	Long-term	NQ	1	NF
<b>k) Technology Maintenance</b>				
• Replace one-third of desktop PCs annually to ensure that employees are able to utilize current technologies and work efficiently.	Ongoing	\$\$\$\$	1	GF
• Continue migration of television equipment to digital formats as warranted.	Ongoing	\$\$\$\$	1	CIP
<b>l) Telecommunications Regulations</b>				
• Continue to obtain in-kind service, equipment, and other compensation from telecommunications providers, as permissible.	Ongoing	NQ	1	—
• Develop and adopt Right-of-Way (ROW) and Wireless Ordinances.	1	\$\$\$\$	1	GF
• Coordinate multi-departmental efforts such as lease and agreement negotiations with telecommunications providers.	Ongoing	NQ	1	—

## Goal 2. Develop IT Organization and Staff Structure

Key Result Area	Timeframe	Cost	Staff	Fund
<b>a) Human Resources</b>				
<ul style="list-style-type: none"> <li>Create two new positions, PC support specialist and dedicated programmer analyst, to meet the increasing demands of departments; convert one part-time Web/graphics assistant position to a full-time position (.5 FTE to 1.0 FTE).</li> </ul>	2	\$\$\$\$\$	↑↑	NF
<ul style="list-style-type: none"> <li>Periodically evaluate the allocation and responsibilities of staff resources.</li> </ul>	Ongoing	NQ	↑	—
<ul style="list-style-type: none"> <li>Compare the technologies to be implemented with skill sets and ensure a minimum level of competency for each area of discipline.</li> </ul>	Ongoing	NQ	↑↑	—
<ul style="list-style-type: none"> <li>Ensure that salaries are competitive with other local governments and with the local economy.</li> </ul>	Ongoing	NQ	↑	—
<ul style="list-style-type: none"> <li>Create an environment conducive to advancement within the department.</li> </ul>	Ongoing	NQ	↑	—
<ul style="list-style-type: none"> <li>As technologies change, ensure that duties are clearly defined.</li> </ul>	Ongoing	NQ	↑↑↑	—
<b>b) IT Staff Training</b>				
<ul style="list-style-type: none"> <li>Continue to provide sufficient funding for IT staff to meet the demands of changing technologies.</li> </ul>	Ongoing	\$\$\$	↑↑↑↑↑	GF
<ul style="list-style-type: none"> <li>Require certain staff to obtain certifications where specific expertise is needed.</li> </ul>	Ongoing	\$	↑↑↑↑↑	GF
<b>c) Services Offered</b>				
<ul style="list-style-type: none"> <li>Evaluate the quality and effectiveness of IT services with the use of customer surveys and/or other measurement tools.</li> </ul>	Ongoing	\$	↑↑	GF
<ul style="list-style-type: none"> <li>Periodically determine if services need to be added or discontinued.</li> </ul>	Ongoing	NQ	↑↑	—

### Goal 3. Use Technology to Communicate and Share Information Effectively

Key Result Area	Timeframe	Cost	Staff	Fund
<b>a) Telephones/Voice Mail/Mobile Phone Systems/Pagers</b>				
<ul style="list-style-type: none"> <li>Offer interactive voice response (IVR) systems to enhance service delivery, especially for citizens without Internet access. Examples include registration for recreation activities, tracking the status of permits, and voice announcements in non-English languages.</li> </ul>	1	\$\$\$	👤👤👤👤	GF*
<ul style="list-style-type: none"> <li>Develop cost control and usage policies for wireless technology.</li> </ul>	2	NQ	👤👤	—
<ul style="list-style-type: none"> <li>Periodically provide training to staff in the use of telephone systems, mobile phones, voice mail systems, and pagers.</li> </ul>	Ongoing	\$	👤👤👤👤	NF
<b>b) Web/Internet (See Goal 5)</b>				
<ul style="list-style-type: none"> <li>Maintain the Web site to ensure that information is up-to-date.</li> </ul>	Ongoing	NQ	👤👤	—
<ul style="list-style-type: none"> <li>Use the Web site to promote the City, encourage citizen participation, and keep residents informed.</li> </ul>	Ongoing	NQ	👤👤	—
<ul style="list-style-type: none"> <li>Continue to evaluate and update for service functionality, ease of use, and appearance for users.</li> </ul>	Ongoing	NQ	👤👤	—
<b>c) Intranet</b>				
<ul style="list-style-type: none"> <li>Ensure all City personnel with computers have access to the Intranet and are aware of policies of content and security.</li> </ul>	1	NQ	👤	—
<ul style="list-style-type: none"> <li>Leverage the Intranet to reduce paper documents (e.g., phone directory, policies, newsletters, forms, financial reports, etc.).</li> </ul>	1	\$\$\$\$	👤👤👤	GF**
<ul style="list-style-type: none"> <li>Train key personnel from each department to make changes/additions to Intranet content.</li> </ul>	1	\$	👤👤	NF

\* Partially Funded – Additional funding need for Permit IVR application

\*\* Partially Funded

### Goal 3. Use Technology to Communicate and Share Information Effectively (continued)

Key Result Area	Timeframe	Cost	Staff	Fund
<b>d) Cable Television</b>				
<ul style="list-style-type: none"> <li>Continue offering excellence in programming.</li> </ul>	Ongoing	NQ	↑↑↑↑↑	—
<ul style="list-style-type: none"> <li>Upgrade and convert production and transmission equipment to digital standards. Purchase and install a digital playback system.</li> </ul>	1	\$\$\$\$\$	↑↑↑	CIP
<ul style="list-style-type: none"> <li>Employ computer technology to enhance production quality, effectiveness, and efficiency.</li> </ul>	Ongoing	NQ	↑↑↑	—
<b>e) E-Forms</b>				
<ul style="list-style-type: none"> <li>Identify all the forms used by the City; determine which ones are appropriate for conversion to electronic forms (e-forms).</li> </ul>	1	NQ	↑↑↑	—
<ul style="list-style-type: none"> <li>Perform thorough analysis of forms and prioritize according to the greatest cost savings and efficiency improvement.</li> </ul>	1	\$\$\$	↑↑↑	GF*
<ul style="list-style-type: none"> <li>Integrate e-forms into back-end applications to eliminate the need for double data entry (e.g., time sheets, accounting, and personnel forms).</li> </ul>	2	NQ	↑↑↑	GF*
<b>f) Software Applications</b>				
<ul style="list-style-type: none"> <li>Link address-based applications to GIS.</li> </ul>	Ongoing	NQ	↑↑	—
<ul style="list-style-type: none"> <li>Ensure that commercially available and custom-developed software applications are Web friendly (e.g., permit plan, recreation system, water billing, etc.).</li> </ul>	Ongoing	NQ	↑↑↑↑↑	—
<ul style="list-style-type: none"> <li>Upgrade the financial system to new platform supported by vendor and phase-out mainframe computer.</li> </ul>	Long-term	\$\$\$\$\$	↑↑	NF

\* Partially Funded – Additional funding need for Permit IVR application

\*\* Partially Funded

### Goal 3. Use Technology to Communicate and Share Information Effectively (continued)

Key Result Area	Timeframe	Cost	Staff	Fund
<ul style="list-style-type: none"> <li>Research the feasibility of implementing a new election system for vote counting and voter registration to eliminate the City's dependence on the aging Montgomery County system.</li> <li>Reengineer voter registration database used by City Clerk's Office.</li> <li>Implement a centralized database for list management and committees, boards, commissions, and task forces membership tracking.</li> <li>Provide database design, development, and consulting services to departments to meet their specific needs.</li> </ul>	<p>1</p> <p>1</p> <p>3</p> <p>Ongoing</p>	<p>\$\$\$</p> <p>\$</p> <p>\$</p> <p>NQ</p>	<p>↑↑</p> <p>↑</p> <p>↑</p> <p>↑↑↑↑</p>	<p>NF</p> <p>GF</p> <p>GF</p> <p>—</p>
<b>g) Geographic Information Systems</b>				
<ul style="list-style-type: none"> <li>Develop simple customized GIS applications for specific queries and mapping to ensure the fastest and simplest solutions for the users.</li> <li>Consolidate GIS data in one central repository with clear and meaningful definitions in a data dictionary (metadata).</li> <li>If legally permitted by license agreements, make GIS data and metadata readily available to the public and consultants in formats that are universal and easily convertible to other platforms.</li> <li>Obtain and share information with National Capital Park and Planning Commission, Montgomery County, and other jurisdictions.</li> </ul>	<p>Ongoing</p> <p>1</p> <p>2</p> <p>Ongoing</p>	<p>\$\$\$</p> <p>\$</p> <p>\$</p> <p>NQ</p>	<p>↑</p> <p>↑</p> <p>↑</p> <p>↑</p>	<p>CIP</p> <p>CIP</p> <p>CIP</p> <p>—</p>

### Goal 3. Use Technology to Communicate and Share Information Effectively (continued)

Key Result Area	Timeframe	Cost	Staff	Fund
<b>h) Mobile and Wireless Computing</b>				
<ul style="list-style-type: none"> <li>Implement 800 MHz or compatible mobile data/mobile voice systems to enhance public safety.</li> </ul>	2	\$\$\$\$\$	↑↑	CIP
<ul style="list-style-type: none"> <li>Provide inspectors and key staff working away from their offices with access to e-mail, software applications, mobile computers, and wireless Internet services.</li> </ul>	2	\$\$\$\$\$	↑↑↑↑	GF
<b>i) Development of Standards and Policies</b>				
<ul style="list-style-type: none"> <li>Periodically update and revise the City's computer and electronic communications policy.</li> </ul>	Ongoing	NQ	↑	—
<ul style="list-style-type: none"> <li>Develop customer service standards for the help desk.</li> </ul>	1	NQ	↑↑	—
<b>j) Digital Divide/"Community Learning Centers"</b>				
<ul style="list-style-type: none"> <li>Address citizen demand for access to technology by creating community learning centers in areas where per capita Internet access is significantly below the City average. Seek opportunities to partner with other government agencies in the private sector to provide learning centers.</li> </ul>	Ongoing	\$\$\$\$\$	↑↑	NF
<b>k) Citizen Involvement</b>				
<ul style="list-style-type: none"> <li>Continue to participate in meetings with RockNet. Continue to offer Web Administration support and hosting services for the RockNet Web site.</li> </ul>	Ongoing	NQ	↑↑	—
<ul style="list-style-type: none"> <li>Participate in Technology Action Team meetings and collaborate on technology issues impacting citizens.</li> </ul>	Ongoing	NQ	↑↑	—
<ul style="list-style-type: none"> <li>Promote the use of cable television and Web site to citizens and businesses.</li> </ul>	Ongoing	NQ	↑↑↑↑	—

Goal 3. Use Technology to Communicate and Share Information Effectively (continued)

Key Result Area	Timeframe	Cost	Staff	Fund
II) Intergovernmental and Outside Agency Collaboration				
<ul style="list-style-type: none"><li>Encourage information sharing and partnering with municipalities and with state and federal governments.</li></ul>	Ongoing	NQ	1 1	—
<ul style="list-style-type: none"><li>Implement links to government and outside agency networks to provide electronic access to information (e.g., finance, police, community services, and legal information).</li></ul>	1	\$\$\$	1 1	NF
<ul style="list-style-type: none"><li>Participate in meetings with Council of Governments, Public Technology, Inc. and other organizations.</li></ul>	Ongoing	\$	1	GF
<ul style="list-style-type: none"><li>Monitor legislation impacting information and technology.</li></ul>	Ongoing	\$	1	GF



## Goal 4. Empower and Educate Technology Users

Key Result Area	Timeframe	Cost	Staff	Fund
<b>a) Human Resources</b>				
<ul style="list-style-type: none"> <li>Set standards for hiring City staff (negotiate a “technology literacy” minimum for new hires with Personnel and other departments). Apply standards in descriptions/requirements. Ensure that the hiring process for City staff involves testing candidates for the required computer skills.</li> </ul>	2	NQ	1	—
<ul style="list-style-type: none"> <li>Convince departments to include PC and position-specific software competency as part of employee evaluations and performance goals.</li> </ul>	Ongoing	NQ	1	—
<b>b) Help Desk/Customer Service</b>				
<ul style="list-style-type: none"> <li>Develop a service agreement for users.</li> </ul>	1	NQ	1	—
<ul style="list-style-type: none"> <li>Implement a new system for tracking help desk calls to improve customer service.</li> </ul>	1	\$\$	1	NF
<ul style="list-style-type: none"> <li>Periodically survey City staff on the effectiveness of the help desk and their training needs.</li> </ul>	2	\$	1	GF
<ul style="list-style-type: none"> <li>Facilitate the creation of a “super-user” group with representatives from each department, which will meet regularly to help with training and support issues.</li> </ul>	2	NQ	1	—
<b>c) Technology User Training</b>				
<ul style="list-style-type: none"> <li>Develop standards for computer proficiencies of City staff; offer training for staff members who do not meet these standards.</li> </ul>	2	NQ	1	—
<ul style="list-style-type: none"> <li>Construct and maintain a training room in City Hall to offer hands-on training.</li> </ul>	3	\$\$\$	1	CIP
<ul style="list-style-type: none"> <li>Centralize computer-training budgets under IT, or charge-back costs to departments, to standardize training and to increase the amount of training available.</li> </ul>	2	NQ	1	—

## Goal 4. Empower and Educate Technology Users

Key Result Area	Timeframe	Cost	Staff	Fund
<ul style="list-style-type: none"> <li>Provide new employee user orientation for telephone, voice mail, e-mail, mobile computers, Internet, and Intranet.</li> </ul>	2	NQ	↑↑	—
<b>d) Intranet</b>				
<ul style="list-style-type: none"> <li>Implement the City's Intranet to enhance communication within the City and to allow ready access and exchange of information. The Intranet will make available: personnel policies, information, online forms, timesheets, employee newsletters, wellness resources, online registration, employee phone and photo directory, financial and purchasing documents, and any information pertinent to individual departments.</li> </ul>	1	NQ	↑↑↑	—
<ul style="list-style-type: none"> <li>Empower key individuals in all departments to post and receive information generated from online Intranet forms.</li> </ul>	2	\$	↑	GF
<ul style="list-style-type: none"> <li>Utilize the Intranet as a way to train and inform users and build a knowledge base.</li> </ul>	Ongoing	NQ	NQ	—
<b>e) Mobile and Wireless Computing</b>				
<ul style="list-style-type: none"> <li>Work with Montgomery County to offer training to City Police Officers in the use of the 800 MHz or compatible mobile data/mobile voice systems.</li> </ul>	2	NQ	↑	—
<ul style="list-style-type: none"> <li>Offer initial training and provide ongoing training to mobile computer users. If demand warrants, form a user group for peer exchange.</li> </ul>	2	\$	↑↑	GF
<b>f) Geographic Information Systems</b>				
<ul style="list-style-type: none"> <li>Continually disseminate information to users about new technology such as articles, upcoming conferences, workshops, etc.</li> </ul>	Ongoing	\$	↑	GF

Goal 4. Empower and Educate Technology Users

Key Result Area	Timeframe	Cost	Staff	Fund
<ul style="list-style-type: none"><li>• Encourage participation in the GIS user group where users can share ideas and voice concerns.</li><li>• Continue to provide formal GIS training classes.</li></ul>	Ongoing	\$	1	GF
	Ongoing	\$\$	1	CIP
<b>g) Teleworking</b>				
<ul style="list-style-type: none"><li>• Develop hardware and software standards for staff working at home.</li><li>• Offer initial and ongoing training to teleworkers regarding connecting to the City's network and accessing e-mail remotely.</li></ul>	1	NQ	1	—
	Ongoing	\$	1	GF

## Goal 5. Extend and Enhance City Services to the Web

Key Result Area	Timeframe	Cost	Staff	Fund
<b>a) Web/Internet</b>				
<ul style="list-style-type: none"> <li>Increase quantity of information available online (e.g., Recreation Guide, class descriptions, bid documents, permit information, financial and budget information)</li> </ul>	Ongoing	NQ	1	—
<ul style="list-style-type: none"> <li>Extend and enhance services by adding features to the site such as a search engine and dynamic content.</li> </ul>	1	\$\$\$	1	GF <sup>7</sup>
<ul style="list-style-type: none"> <li>Re-design home page and site navigation to incorporate added features.</li> </ul>	1	NQ	1	—
<b>b) Cable Television</b>				
<ul style="list-style-type: none"> <li>Allow citizens to view Mayor and Council meetings and special events via the Web using video-streaming technology.</li> </ul>	2	\$\$\$	1	CIP
<ul style="list-style-type: none"> <li>Produce “How To” programming for using City Web applications, as in “How to register for a recreation activity” or “apply for a permit” via the Web site.</li> </ul>	2	\$\$	1	GF
<b>c) Geographic Information System</b>				
<ul style="list-style-type: none"> <li>Implement GIS technology to allow residents to use map-driven applications to get information about City services through the Web.</li> </ul>	1	\$\$	1	CIP
<b>d) E-Forms</b>				
<ul style="list-style-type: none"> <li>Increase the number of forms used by citizens and businesses to PDF or other appropriate format.</li> </ul>	2	\$\$	1	GF <sup>8</sup>

<sup>7</sup> General Fund – Partially Funded

<sup>8</sup> General Fund – Partially Funded

Goal 5. Extend and Enhance City Services to the Web (continued)

Key Result Area	Timeframe	Cost	Staff	Fund
<b>e) E-Commerce</b>				
• Set up full-scale e-commerce and utilize generally accepted security standards.	1	\$\$\$\$	👤👤👤	GF
• Train IT staff to set up and maintain e-commerce applications.	2	\$	👤👤👤	GF
• Enable online payment of water bills, tickets, permits, and registration for City programs.	1	\$\$\$\$\$\$	👤👤👤👤	GF <sup>9</sup>

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### CONCLUSION

In many respects, the world of information and technology is uncharted; however, the IT Strategic Plan roadmap will guide the City to a logical destination. Moreover, like a journey, the plan is mindful of detours and changes in itineraries.

The IT Strategic Plan defines the guiding principles for information and technology governance and decision making and provides the City of Rockville with measurable goals and objectives. These goals and objectives will establish the partnership and

understanding between the IT Department and other departments, and they will assist these departments in fulfilling their missions. Finally, it is important to remember that the plan is a living, working document which will undergo regular evaluations and updates.

Although the plan is complete, the real work is only beginning. This is an exciting time for the City of Rockville to be engaged in the world of information and technology, a world that is challenging but offers numerous opportunities.

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# APPENDIX

## GLOSSARY OF TERMS

**Application Service Provider (ASP):** An online outsourcing or hosting service for software applications, typically for large businesses with hundreds of users or more. ASP users “rent” instead of buy applications, such as many back-office and e-commerce applications.

**Bluetooth Standards:** A short-range radio standard aimed at simplifying communications between wireless devices over short distances.

**Chief Information Officer (CIO):** The executive officer in charge of information processing in an organization. All systems design, development, and data center operations fall under CIO jurisdiction. CIOs have demanding jobs as information systems in an organization are often taken for granted until something breaks down.

**Client/Server:** Client/server describes the relationship between two computer programs in which one program, the client, makes a service request from another program, the server, which fulfills the request. Although the client/server idea can be used by programs within a single computer, it is a more important idea in a network. In a network, the client/server model provides a convenient way to interconnect programs that are distributed efficiently across different locations.

**Commercial Off-The-Shelf (COTS):** COTS typically describes ready-made software products that can easily be obtained.

**Confidentiality:** Ensuring that the privacy of information is maintained.

**Critical Systems:** Software applications or computer hardware that is vital to the smooth operation of an organization.

**Database:** A database is a collection of data that is organized so that its contents can easily be accessed, managed, and updated.

**Database Management System (DBMS):** Software that manages access to databases. Functions provided typically include database creation, access, security, back up, and recovery.

**Data Mining:** The use of sophisticated search engines that use statistical algorithms to discover patterns and correla-

tions in otherwise unrelated data. It is used as a way to find knowledge buried in the vast mountain of information either on the Internet or in a company's own files.

**Dedicated Hosting:** Maintaining a computer system and its applications at a third-party site.

**Digital Cash:** Digital cash is a system of purchasing cash credits usually in relatively small amounts, storing the credits in your computer or a smart card, and then spending them when making electronic purchases over the Internet. Theoretically, digital cash could be spent in micro payments, such as tenths of a cent (U.S.) or less. Most merchants accepting digital cash so far, however, use it as an alternative to other forms of payment for somewhat higher priced purchases.

**Digital Signature:** A digital signature is an electronic rather than a written signature that can be used by someone to authenticate the identity of the sender of a message or the signer of a document.

**Digital Subscriber Line (DSL):** A service for high-bandwidth information delivery to homes and small businesses over ordinary copper telephone lines.

**Digital Wallet:** Encryption software that works like a physical wallet during electronic commerce transactions. A wallet can hold a user's payment information, a digital certificate to identify the user, and shipping information to speed transactions.

**Disaster Recovery Plan:** A written document that outlines an organization's recovery strategy, damage assessment, monitoring of the recovery process, and restoration of normal business operations.

**Document Management System:** A database system that keeps track of stored documents created by a computer using word processing, spreadsheets, other software, or information scanned into a computer. Document management systems can be part of an imaging system as its integral controlling component.

**Electronic Commerce (e-commerce):** The buying and selling of goods and services on the Internet, especially the World Wide Web. In practice, this term and “e-business” are often used interchangeably.

**Electronic Data Interchange:** The process of creating standardized forms of documents used by the systems of two different companies. The typical use is a simple online ordering form that is standardized for both the customer and the supplier.

## Information and Technology Strategic Plan

**Encryption/Decryption:** Encryption is the conversion of data into a form, called a cipher, which cannot be easily intercepted by unauthorized people. Decryption is the process of converting encrypted data back into its original form, so it can be understood.

**Exchanges:** In Internet-speak, a two-sided marketplace where buyers and sellers negotiate prices, usually with a bid-and-ask system. Exchanges are typically centered around specific industries, where all the users can compare and contrast products and services based on common standards.

**Extranet:** An Intranet that is partially accessible to authorized outsiders. Whereas an Intranet resides behind a firewall and is accessible only to people who are members of the same company or organization, an extranet provides various levels of accessibility to outsiders. An extranet can be accessed with a valid user I.D. and password. The profile of the user I.D. and password determine which parts of an extranet can be viewed.

**Fiber Optic Cable:** Cables consisting of thin filaments of glass (or other transparent materials), which can carry beams of light for the purpose of transmitting data usually over long distances.

**Firewall:** A system designed to prevent unauthorized access to or from a private network. Firewalls can be implemented using hardware or software, or a combination of both. Firewalls are frequently used to prevent unauthorized Internet users from accessing private networks connected to the Internet. All data transmissions passing through the firewall are examined. Those that do not meet specific security criteria are blocked from entering or leaving the network.

**Gateway:** A gateway refers to hardware or software that bridges the gap between two otherwise incompatible applications and networks so that data can be transferred among different computers.

**Geographic Information System (GIS):** A GIS allows a user to query or analyze a database and receive the results in the form of some kind of map. Several relational database management system vendors provide spatial extenders to facilitate this type of access.

**Hacker:** Someone who tries to break into computer systems, often with malicious intent.

**Home Page:** For a Web user, the home page is the first Web page that is displayed after starting a Web browser like Netscape's Navigator or Microsoft's Internet Explorer.

**Hot-Site:** A business continuity computer site that is available to organizations on a subscription basis in the event of a disaster.

**Hyper Text Markup Language (HTML):** HTML is a set of embedded commands to a Web browser directing how the contents of a page should be displayed on the World Wide Web.

**Hyperlink:** Hypertext, a hyperlink, or link is a selectable connection from one word, picture, or information object to another. In a multimedia environment such as the World Wide Web, such objects can include sound and motion video sequences. The most common form of link is the highlighted word or picture that can be selected by the user (with a mouse or in some other fashion), resulting in the immediate delivery and view of another file.

**Hypertext:** Hypertext is the organization of information units into connected associations that a user can choose to make.

**I-Net:** A private dedicated network built for local schools, business, or government.

**Imaging:** Imaging is the capture, storage, manipulation, and display of images. In document imaging, the emphasis is on capturing, storing, and retrieving information from the images (which are often mainly images of text).

**Infrastructure:** Infrastructure is the physical hardware used to interconnect computers and users. Infrastructure includes the transmission media, including telephone lines, cable television lines, and satellites and antennas, and also the routers, aggregators, repeaters, and other devices that control transmission paths. Infrastructure also includes the software used to send, receive, and manage the signals that are transmitted.

**Integrity:** Ensuring that information is in an unadulterated condition.

**Interactive Voice Response (IVR):** Part of a telephone system that uses prerecorded voice prompts for callers to input, receive, and pay for information with a touch-tone telephone.

**Internet:** The Internet, sometimes called "the Net," is a worldwide system of computer networks – a network of networks in which users at any one computer can, if they have permission, get information from any other computer (and sometimes talk directly to users at other computers).

**Internet Protocol (IP):** IP is the protocol by which data is sent from one computer to another on the Internet. Each computer (known as a host) on the Internet has at least one ad-

## Information and Technology Strategic Plan

dress (its IP address) that uniquely identifies it from all other companies on the Internet.

**Internet Service Provider (ISP):** An ISP is a company that provides individuals and other companies access to the Internet and other related services such as Web site building and hosting.

**Intranet:** A network based on TCP/IP protocols (e.g., an Internet) belonging to an organization that is accessible only by the organization's members, employees, or others with proper authorization.

**Kiosk:** Public terminals that offer anything from Internet access to government information to ATM services. Electronic kiosks require a simple user interface and rugged hardware. Often these terminals are equipped with touch screens.

**Knowledge Management:** Knowledge management is when an enterprise consciously and comprehensively gathers, organizes, shares, and analyzes its knowledge to further its aims. Essentially, it embodies organizational processes that seek synergistic combinations of data, the information processing capacity of information technologies, and the creative and innovative capacity of human beings.

**Knowledge Worker:** A knowledge worker is anyone who works at the tasks of developing or using knowledge.

**Legacy Application:** A legacy application is an application in which a company or organization has already invested considerable time and money. Typically, legacy applications are database management systems (DBMS) running on mainframes or minicomputers. An important feature of new software products is the ability to work with a company's legacy applications, or at least be able to import data from them.

**Linux:** Linux is a UNIX-like operating system that was designed to provide personal computer users a free or very low-cost operating system comparable to traditional and usually more expensive UNIX systems.

**Local Area Network (LAN):** A LAN is a network of interconnected workstations sharing the resources of a single processor or server within a relatively small geographic area.

**Mainframe:** It is a large computer system. There are small, medium, and large-scale mainframes, handling from a handful to tens of thousands of online terminals. Large-scale mainframes support multiple gigabytes of main memory and terabytes of disk storage. Large mainframes use smaller computers as front-end processors that connect to the communications networks.

**Megahertz (MHz):** One MHz represents one million cycles per second. The speed of microprocessors, called the clock speed, is measured in megahertz. For example, a microprocessor that runs at 200 MHz executes 200 million cycles per second. Each computer instruction requires a fixed number of cycles, so the clock speed determines how many instructions per second the microprocessor can execute. To a large degree, this controls how powerful the microprocessor is.

**Metadata:** Data that describes other data. Data dictionaries and repositories are examples of metadata. The term may also refer to any file or database that holds information about another database's structure, attributes, processing, or changes.

**Middleware:** A type of software that allows other types of software to talk to each other.

**N/3:** A process of identifying and prioritizing issues by taking the total number of priorities and dividing by three. Each individual is given a specific number of color-coding round labels according to the "N/3" result, and they place one label next to the priority of their choice. The priorities with the majority of labels are then identified and characterized as top priorities.

**Network:** A system that transmits any combination of voice, video, and/or data between users. It includes the cables and all supporting hardware such as bridges, routers, and switches.

**Nonrepudiation:** Ensuring that no party involved in a transaction can deny involvement in the transaction.

**Optical Scanner:** An optical scanner is a device that can read text or illustrations printed on paper and translate that information into a format that a computer can use.

**Outsourcing:** Contracting out a company's functions to outsiders.

**Personal Digital Assistant (PDA):** A PDA, otherwise known as a handheld computer, is a term for any small mobile handheld device that provides computing and information storage and retrieval capabilities for personal or business use, often for keeping schedule calendars and address book information handy.

**Platform:** A platform is an underlying computer system on which application programs can run. On personal computers, Windows 95 and the Macintosh are examples of two different platforms. Historically, most application programs have had to be written to run on a particular platform. Although platform differences continue to exist, and there will

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probably always be proprietary differences between them, new open or standards-conforming interfaces now allow some programs to run on different platforms or to interpret with different platforms through mediating or “broker” programs.

**PDF (Portable Document Format):** The page description language used in the Acrobat document exchange system. Acrobat Document exchange software from Adobe allows documents created on one platform to be displayed and printed exactly the same on another no matter which fonts are installed in the computer. This eliminates the requirement that the target machine contain the same fonts.

**Portals:** Portal is a new term, generally synonymous with gateway, for a World Wide Web site that is or proposes to be a major starting site for users when they get connected to the Web or that users tend to visit as an anchor site.

**Random Access Memory (RAM):** RAM is the place in a computer where the operating system, application programs, and data in current use are kept so that they can be quickly reached by the computer’s processor. RAM is much faster to read from and write to than the other kinds of storage in a computer: the hard disk, floppy disk, and CD-ROM. However, the data in RAM stays there only as long as your computer is running. When you turn the computer off, RAM loses its data. When you turn your computer on again, your operating system and other files are once again loaded into RAM, usually from your hard disk.

**Redundancy:** In a redundant system, if you lose part of the system, you can continue to operate. For example, if you have two power supplies and one takes over if the other one dies, then that is a form of redundancy.

**Relational Databases:** A relational database is a collection of data items organized as a set of formally-described tables from which data can be accessed in many different ways without having to reorganize the database tables. In addition to being relatively easy to create and access, a relational database has the important advantage of being easy to extend. After original database creation, a new data category can be added without requiring that all existing applications be modified.

**Remote Access:** Remote access is the ability to access a computer or a network from a remote distance.

**RockNet:** A group of volunteers, who live in the City of Rockville, whose mission is to create a closer sense of community using computers and the Internet. RockNet manages a Web site and e-mail list server, via the City of Rockville home page, and provides information and resources on

Rockville businesses, employment, community and religious organizations, real estate, entertainment, schools, libraries, government elections, and local weather, traffic, and maps.

**Router:** A device or, in some cases, software that figures out how to send information to its destination.

**Scalability:** Scalability is the ability of a computer application or product (hardware or software) to continue to function well as it (or its context) is changed in size or volume to meet a user need. It also is the ability not only to function well in the rescaled situation, but also to actually take full advantage of it.

**Search Engine:** On the Internet, a search engine has three parts: a spider (also called a “crawler” or a “bot”) that goes to every page or representative pages on every Web site that wants to be searchable and reads it, using hypertext links on each page to discover and read a site’s other pages; a program that creates a huge index (sometimes called a “catalog”) from the pages that have been read; and a program that receives your search request, compares it to the entries in the index, and returns to the user.

**Security:** Security refers to techniques for ensuring that data stored in a computer cannot be read or compromised by unauthorized users.

**Server:** In general, a server is a computer program that provides services to other computer programs on the same or other computers. The computer that a server program runs on also is frequently referred to as a server (though it may contain a number of server and client programs).

**Server Farm:** A group of servers housed together in one location.

**Smart Card:** A smart card is a plastic card with an embedded processor that can be loaded with data, used for telephone calling, electronic cash payments, and other applications, and then periodically “recharged” for additional use.

**Software:** Application software is software designed to perform a specific function directly for the user or, in some cases, for another application program. Examples of applications include word processors; database programs; Web browsers; development tools; drawing, paint, and image editing programs; and communication programs.

**Spatial Database:** A database management system that not only holds tabular information, but also contains graphic elements in order to represent data spatially. A geographic information system is one of the primary applications of a spatial database (land maps).

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**Switch:** A network device that decides a path on which to send a piece of data to its next destination. A switch usually includes the function of the router.

**Super User:** Any individual who interacts with the computer at an application level and can perform any and all operations on the computer. Programmers, operators, and other technical personnel are not considered users when working in a professional capacity on the computer.

**Technology Action Team:** A group of Rockville residents met to address issues related to technology during the Imagine Rockville visioning process beginning in 1995. Over the course of six months, citizen volunteers met in various settings including forums, meetings, and community fairs, to create a vision for the future of Rockville.

**Telephony:** Telephony is the technology associated with the electronic transmission of voice, fax, or other information between distant parties using systems historically associated with the telephone, a handheld device containing both a speaker or transmitter and a receiver.

**Touch Screen:** A type of display screen that has a touch-sensitive transparent panel covering the screen. Instead of using a pointing device, such as a mouse or a light pen, a user can use his or her finger to point directly to objects on the screen.

**Transmission Control Protocol/Internet Protocol (TCP/IP):** TCP/IP is the basic communication language or protocol of the Internet. It can also be used as a communications protocol in the private networks called Intranets and in extranets.

**Uniform Resource Locator (URL):** An URL is the address of a file (resource) accessible on the Internet.

**User Group:** An organization of users of a particular hardware or software product. Members share ideas to improve their understanding and use of a particular product. User groups are often responsible for influencing vendors to change or enhance their product.

**Viral:** A very apt name for a very common phenomenon on the Internet: self-propagating practices or patterns of behavior. Napster is a viral service, as are other forms of community-oriented platforms that, as they grow, work better and faster.

**Virtual Private Network (VPN):** A VPN utilizes a public network such as the Internet as a secure channel for communicating private data. VPN technology allows the creation of a secure link between a corporate local area network (LAN)

and a remote user's PC.

**Virus:** A virus is a piece of programming code inserted into other programming to cause some unexpected and, for the victim, usually undesirable event. Viruses can be transmitted by downloading programming from other sites or be present on a diskette. The source of the file you're downloading or of a diskette you've received are often unaware of the virus. The virus lies dormant until circumstances cause its code to be executed by the computer.

**Voice Recognition:** A voice recognition system has the ability to receive and interpret dictation or to carry out spoken commands. The most powerful can recognize thousands of words. Voice recognition implies only that a computer can take dictation, not that it understands what is being said.

**Web Hosting:** The function of housing, serving, and maintaining files for one or more Web sites. Web hosts offer super-fast connections and easy access to the backbone of the Internet.

**Wide Area Network (WAN):** A WAN is a geographically-dispersed telecommunications network. The term distinguishes a broader telecommunication structure from a local area network (LAN). A wide area network may be privately owned or rented, but the term usually connotes the inclusion of public (shared user) networks.

**Windows NT:** Windows NT is the Microsoft Windows personal computer operating system designed for users and businesses needing advanced capability. Windows NT is actually two products: Microsoft NT Workstation and Microsoft NT Server.

**World Wide Web (WWW):** All the resources and users on the Internet that are using the Hypertext Transfer Protocol (HTTP).

**XML:** Extensible markup language was designed so companies could do business with each other on the World Wide Web. It creates common information formats for sharing information over the Web.

**Y2K:** When computers were first being developed, computer memory was scarce and expensive. As a shortcut, programmers used two numbers to record a year to conserve memory space. Without a fix, computers will recognize 00 as the year 1900, not the year 2000.

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Key Result Areas	Ongoing	FY01	FY02	FY03	Long-Term
<b>Goal 1. Build &amp; Strengthen the City's Technology Infrastructure</b>					
<b>Network Infrastructure</b>					
Implement an I-Net of fiber optic cable linking all key City facilities		▲			
Add redundancy to the I-Net			▲		
<b>Computing Platform Consolidation</b>					
Reduce the number of computing platforms and eliminate mainframe-based systems				▲	
Ensure that IT staff have the expertise to support these platforms			▲		
<b>Telephones / Voice Mail / Mobile Phone Systems / Pagers</b>					
Purchase a new city-wide telephone system			▲		
Implement voice mail and telephone systems that are user friendly; offer periodic training			▲		
Evaluate the utility of emerging wireless technology	▲				
<b>Geographic Information System</b>					
Maintain and update the information in the City's GIS map library	▲				
Develop standards for and require developers/telecom providers to submit "as-built" maps in electronic format			▲		
Implement inventory of the Public Works infrastructure in a spatial database			▲		
Implement parks and facilities inventory linked to parks topological survey data		▲			
Continue collaborating with the County and other jurisdictions to develop GIS data	▲				
Keep abreast of new technological developments in GIS and perform hardware and software upgrades	▲				
Provide a seamless link to City databases through GIS		▲			
<b>Security</b>					
Use consultants to periodically audit, develop policies, and make recommendations on security	▲				
Implement a virtual private network (VPN)			▲		
Improve the security of IT facilities			▲		
Implement a new inventory control system for IT equipment			▲		
<b>Disaster Recovery</b>					
Develop a comprehensive disaster recovery plan for all "critical systems"			▲		
Annually test disaster recovery procedures	▲				
<b>Help Desk</b>					
Purchase and implement help desk call tracking software		▲			
Purchase software that enables staff to examine and fix problems remotely			▲		
<b>Mobile and Wireless Computing</b>					
Provide City Police with new mobile data and mobile voice communications systems			▲		
Utilize mobile computers and wireless Internet services for City staff working offsite		▲			
<b>Document Management and Imaging</b>					
Acquire a document management system					▲
Acquire a document imaging system					▲
<b>New City Hall &amp; Other Facilities</b>					
Provide consultation in all phases of new building/remodeling		▲			
Design a new cabling system		▲			
Utilize consultant to design TV studio and AV systems for conference rooms and M&C Chambers		▲			
Design training facility / "community learning center"		▲			
Install information kiosks in City Hall and possibly other locations					▲
<b>Technology Maintenance</b>					
Replace one-third of desktop PCs annually	▲				
Continue migration of television equipment to digital formats	▲				
<b>Telecommunications Regulations</b>					
Continue to obtain in-kind service, equipment, and other compensation as permissible	▲				
Develop and adopt Right-of-Way and Wireless Ordinances		▲			
Coordinate multi-departmental efforts such as lease and agreement negotiations	▲				



Key Result Areas	Ongoing	FY01	FY02	FY03	Long-Term
<b>Goal 2. Develop IT Organization and Staff Structure</b>					
<b>Human Resources</b>					
Create two new positions, PC support specialist and programmer analyst; convert PT Web position to FT			▲		
Periodically evaluate the allocation of staff resources	▲				
Compare the technologies to be implemented with skill sets and ensure minimum level of competency	▲				
Ensure that salaries are competitive with other local governments and with local economy	▲				
Create an environment conducive to advancement within the department	▲				
As technologies change ensure that duties are clearly defined	▲				
<b>IT Staff Training</b>					
Continue to provide sufficient funding for IT staff to meet the demands of changing technologies	▲				
Require certain staff to obtain certifications where specific expertise is needed	▲				
<b>Services Offered</b>					
Evaluate the quality and effectiveness of IT services with the use of customer surveys	▲				
Periodically determine if services need to be added or discontinued	▲				



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Key Result Areas	Ongoing	FY01	FY02	FY03	Long-Term
<b>Goal 3. Use Technology to Communicate and Share Information Effectively</b>					
<b>Telephones / Voice Mail / Mobile Phone Systems / Pagers</b>					
Offer interactive voice response (IVR) systems to enhance service delivery		▲			
Develop cost control and usage policies for wireless technology			▲		
Periodically provide training to staff in the use of telephones, mobile phones, voice mail systems, and pagers	▲				
<b>Web / Internet</b>					
Maintain the Web site to ensure that information is up-to-date	▲				
Use the Web site to promote the City	▲				
Continue to evaluate and update for service functionality	▲				
<b>Intranet</b>					
Ensure all City personnel with computers have access to the Intranet		▲			
Leverage the Intranet to reduce paper documents		▲			
Train key personnel from each department to make changes/additions to Intranet content		▲			
<b>Cable Television</b>					
Continue offering excellence in programming	▲				
Upgrade production and transmission equipment to digital standards; Purchase digital playback system		▲			
Employ computer technology to enhance production quality, effectiveness, and efficiency	▲				
<b>E-Forms</b>					
Identify all the forms used by the City; determine which ones are appropriate for conversion		▲			
Perform thorough analysis of forms and prioritize		▲			
Integrate e-forms into back-end applications			▲		
<b>Software Applications</b>					
Link address-based applications to GIS	▲				
Ensure that commercially available and custom-developed software applications are Web friendly	▲				
Upgrade the financial system to new platform supported by vendor and phase-out mainframe computer					▲
Research the feasibility of implementing a new election system for vote counting and voter registration		▲			
Reengineer voter registration database		▲			
Implement a centralized database for list management and committee/commission tracking				▲	
Provide database design, development, and consulting services to departments	▲				
<b>Geographic Information System</b>					
Develop simple customized GIS applications for specific queries and mapping	▲				
Consolidate GIS data in one central repository with clear and meaningful definitions in a data dictionary		▲			
If legally permitted, make GIS data and metadata readily available to public and consultants			▲		
Obtain and share information with MNCPPC, Montgomery County, and other jurisdictions	▲				
<b>Mobile and Wireless Computing</b>					
Implement 800 MHz mobile data/mobile voice systems			▲		
Provide inspectors and key staff working offsite with access to e-mail, software applications, etc.			▲		
<b>Development of Standards and Policies</b>					
Periodically update and revise the City's computer and electronic communications policy	▲				
Develop customer service standards for the help desk		▲			
<b>Digital Divide / Learning Centers</b>					
Create community learning centers where per capita Internet access is significantly below the City average	▲				
<b>Citizen Involvement</b>					
Continue to participate with RockNet; continue to offer Web administration support and hosting services	▲				
Participate in Technology Action Team meetings and collaborate on technology issues impacting citizens	▲				
Promote the use of cable television and Web site to citizens and businesses	▲				
<b>Intergovernmental and Outside Agency Collaboration</b>					
Encourage information sharing and partnering with municipalities and with state and federal governments	▲				
Implement links to governments and outside agency networks to provide electronic access to information		▲			
Participate in meetings with Council of Governments, Public Technology, Inc., and other organizations	▲				
Monitor legislation impacting information and technology	▲				

## Information and Technology Strategic Plan

Key Result Areas	Ongoing	FY01	FY02	FY03	Long-Term
<b>Goal 4. Empower and Educate Technology Users</b>					
<b>Human Resources</b>					
Set standards for hiring staff; apply to job descriptions/requirements; ensure hiring process involve testing	▲		▲		
Convince departments to include PC competency as part of employee reviews and performance goals					
<b>Help Desk / Customer Service</b>					
Develop a service agreement for users		▲			
Implement a new system for tracking help desk calls		▲			
Periodically survey City staff on the effectiveness of the help desk and their training needs			▲		
Facilitate the creation of a "super-user" group with representatives from each department			▲		
<b>Technology User Training</b>					
Develop standards for computer proficiencies of staff; offer training for staff who do not meet standards			▲	▲	
Construct and maintain a training room in City Hall to offer hands-on training					
Centralize computer-training budgets under IT, or charge back costs to departments			▲		
Provide new employee user orientation for telephone, voice mail, e-mail, Intranet, etc.			▲		
<b>Intranet</b>					
Implement Intranet; make paper documents available online		▲			
Empower key individuals in all departments to post and receive information generated from online forms			▲		
Utilize the Intranet as a way to train and inform users and build a knowledge base	▲				
<b>Mobile and Wireless Computing</b>					
Work with Montgomery County to train City Police Officers in the use of the 800 MHz mobile systems			▲		
Offer initial training and provide ongoing training to mobile computer users			▲		
<b>Geographic Information System</b>					
Continually disseminate information to users about new technology	▲				
Encourage participation in the GIS user group	▲				
Continue to provide formal GIS training classes	▲				
<b>Teleworking</b>					
Develop hardware and software standards for staff working at home		▲			
Offer initial and ongoing training to teleworkers regarding connecting to City's network and accessing e-mail	▲				

## Information and Technology Strategic Plan

Key Result Areas	Ongoing	FY01	FY02	FY03	Long-Term
<b>Goal 5. Extend and Enhance City Services to the Web</b>					
<b>Web / Internet</b>					
Increase quantity of information available on-line	▲				
Extend and enhance services by adding features to the site such as a search engine and dynamic content		▲			
Re-design home page and site navigation to incorporate added features		▲			
<b>Cable Television</b>					
Allow citizens to view M&C meetings and special events via the Web using video-streaming technology			▲		
Produce "How To" programming for using City Web applications			▲		
<b>Geographic Information System</b>					
Implement GIS technology allowing residents to use map-driven applications		▲			
<b>E-Forms</b>					
Increase the number of forms used by citizens and businesses to PDF or other format		▲	▲		
<b>E-Commerce</b>					
Set up full-scale e-commerce and utilize generally accepted security standards		▲			
Train IT staff to set up and maintain			▲		
Enable online payment of water bills, tickets, permits, and registration for City programs		▲			

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## Information and Technology Strategic Plan

### SPECIAL PROJECTS FUND AND CAPITAL IMPROVEMENT PROJECTS FROM FY 2001 BUDGET

#### Information and Technology Special Projects Funding (General Fund)

	FY 2001	Goals/ Objects Supported
GE Workout: Software, consultants and training	\$ 53,494	4c
Computer Hardware (I-NET)	\$265,000	1a
Permit Plan Web access and mobile computers	\$172,620	1h, 3f, 3h, 5e
E-commerce Infrastructure	\$ 50,000	5e
Consultants for E-Forms Development in Lotus Notes	\$100,000	3e, 5d
Recreation Systems (includes Web and IVR)	\$200,000	1b, 3f, 5a, 5e
<b>TOTAL</b>	<b>\$841,114</b>	

#### Information and Technology Capital Improvement Program (CIP)

	FY 2001	FY 2002	FY 2003	Goals/ Objectives Supported
Cable TV Equipment (Digital Playback System, Digital Upgrade, etc.)*	20	20	20	3d, 5b
Document Imaging of CPDS Drawings	\$150,000	—	—	1d
Geographic Information Systems Development**	\$175,000	\$150,000	\$150,000	1d, 3g, 4f, 5c
Public Safety Communications System	—	\$500,000	20	1h, 3h, 4e
Telephone System Replacement	\$600,000	—	—	1c

\*The prior year's unspent funds as of June 30, 2000 was \$333,000

\*\* The prior year's unspent funds as of June 30, 2000 for GIS Development was \$104,855

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